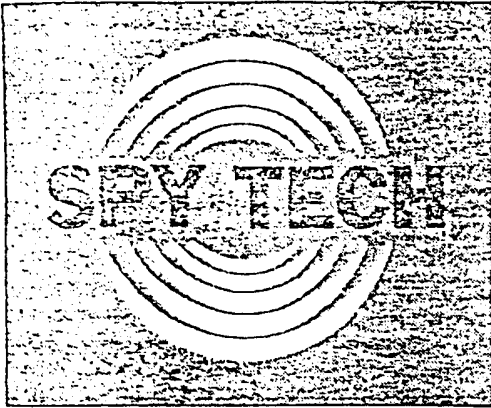


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## That's not a picture hook — it's a 'bug'

By Peter Grier  
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Washington

One hundred eighty miles above the earth there soars an electronic eye so keen that eagles, by comparison, are blind as bats wearing sunglasses.

This marvel is the US KH-11 spy satellite, alias "Keyhole." The KH-11's cameras can pick out cars in the Pentagon parking lot — while the satellite is over, say, Detroit. They can see moving tanks in the dark,

### PART 1

and are able to detect camouflage trees.

"US satellites are the best in the world," says a former military intelligence officer, arms waving with excitement as he discusses the subject. "Easily the best in the world."

They are also the cutting edge of a technology most Americans know little about: high-tech surveillance equipment. Over the last five years, microchips and miniaturization have led to tape machines that can record 40 conversations at once, tiny TV cameras that see in starlight, and "bugs" disguised as picture hooks.

One firm even predicts that camera-equipped computers will soon be able to recognize individual people.

These devices, for the most part, are intended for good use: catching crooks, plant protection, international intelligence-gathering. In many ways they make

our lives more secure.

Yet the very existence of these high-tech eyes and ears compels our vigilance — just in case — say those who study privacy subjects.

"We have all the technology [Orwell] anticipated," notes Robert Smith, publisher of Privacy Journal, "and more."

In fact, an amazing array of surveillance devices are available off the rack, like ready-to-wear suits. Others can be easily assembled from parts sold at many radio and drug stores.

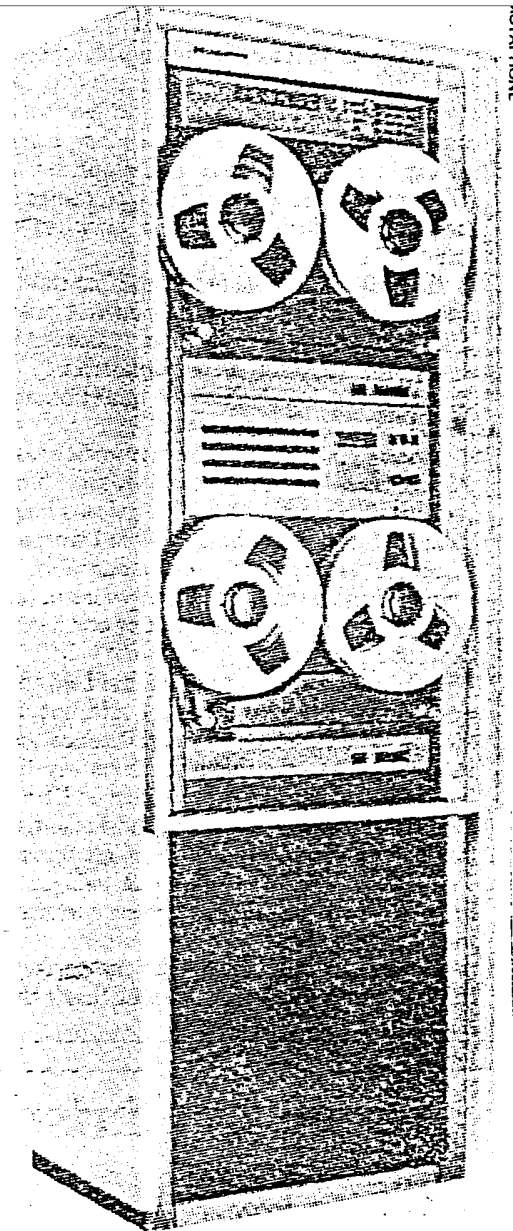
- The Dictaphone "Veritrac," sold mainly to law-enforcement agencies, is a refrigerator-size tape recorder capable of monitoring 40 phone calls at once. At the other end of the scale, CCS Communications of New York sells (in states where it's legal) a desktop humidor that contains a tiny, voice-activated recorder.

"There are microcassettes [recorders] advertised in the Wall Street Journal that are vastly better than anything the government had five years ago," claims an electrical engineer who has worked with intelligence agencies. "They fit right in your palm. They don't even stick out beyond your fingers."

- Video cameras the size of a deck of cards will be available this spring from RCA Corporation. In place of bulky image tubes, these tiny eyes use slices of photosensitive silicon. Cameras currently on the market can already "see" by starlight and transmit pictures by microwave.

- Motion sensors that use infrared or ultrasonic waves, once limited to space shots and expensive weapons, have become standard items in the catalogs of such security firms as ADT and Racal. They are used in spots where normal cameras are useless: The National Park Service, for instance, has used infrared sensors in the recent past to count hikers in heavy forest foliage.

- Advanced technology has rendered the "bug" planted by the Watergate burglars as obsolete as a phone made from tin cans and string. Mix together the microphone from a hearing aid, a pared-down



'Veritrac' monitors 40 phone calls at once

watch battery, and a few odds and ends, and you can today produce an illegal listening device the size of a picture hook.

"They only work a few hours or days, but you can't even recognize them as bugs," says Harry Augenblick, head of Microlab/FXR, a company that makes bug detection devices.

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